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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/783,312	02/19/2004	William Reade Kem	UP-360XC1	7832

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EXAMINER

GREEN, ANTHONY J

ART UNIT	PAPER NUMBER
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1755

DATE MAILED: 03/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/783,312

Applicant(s)

KEM ET AL.

Examiner

Anthony J. Green

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) 6 and 10-22 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-5 and 7-9 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 2/27/04 & 1/21/05
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Election/Restrictions

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 1-5 and 7-9, drawn to a method for reducing fouling and a composition for reducing fouling, classified in class 106, subclass 15.05.
 - II. Claims 6 and 10-20, drawn to a bipyridyl compound and a method of synthesizing it, classified in class 546, subclass 255+.
 - III. Claims 21-22, drawn to a method of initiating paralysis in humans, classified in class 424, subclass 422.

The inventions are distinct, each from the other because of the following reasons:

2. Inventions I, II, and III are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the different inventions have different modes of operation and different functions and different effects.

Group I is unrelated to Group II as independent claims 1 and 7 of Group I are not specifically directed to the specific compounds recited in independent claim 6 of Group II or the method for synthesizing bipyridyls of instant claim 10 of Group II and therefore the inventions are independent. That is, Group I does not require the particulars of Group II.

Group I is directed to a method of reducing fouling whereas Group III is directed to a method of initiating paralysis in humans and therefore have different modes of operation and effects.

Group II is unrelated to Group III as the method of Group III does not require the compound of Group II.

3. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification and because of their recognized divergent subject matter, restriction for examination purposes as indicated is proper.

4. During a telephone conversation with Margaret Efron on 07 December 2004 a provisional election was made with traverse to prosecute the invention of Group I, claims 1-5 and 7-9. Affirmation of this election must be made by applicant in replying to this Office action. Claims 6 and 10-22 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

5. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Oath/Declaration

6. The oath or declaration is defective. A new oath or declaration in compliance with 37 CFR 1.67(a) identifying this application by application number and filing date is required. See MPEP §§ 602.01 and 602.02.

The oath or declaration is defective because:

Non-initialed and/or non-dated alterations have been made to the oath or declaration. See 37 CFR 1.52(c).

Non-initialed alterations have been made by the third inventor.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 1, 3 and 5 are rejected under 35 U.S.C. 102(b) as being anticipated by Taylor (US Patent No. 5,989,323).

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The reference teaches, in the abstract, the examples, and the claims, various compositions and methods for reducing fouling of a surface with aquatic organisms which prevent attachment of the aquatic organisms to the surface using organism repellent agents derived from algae, sponges etc. The repellents may be applied as surface coatings (see column 14, lines 33+ and example 43. The types of organisms repelled include mussels such as zebra mussels (see example 43).

The instant claims are met by the reference as the reference teaches a method that encompasses that which is instantly claimed.

9. Claims 1 and 3-5 are rejected under 35 U.S.C. 102(b) as being anticipated by Cook (US Patent No. 5,945,171).

The reference teaches, in the abstract, the Description of the preferred Embodiment, and the claims, a method of preventing fouling of a surface of an object by an aquatic organism by thermal spraying a copper-nickel mixture onto the surface of the object and forming a coating. The types of objects include stationary intake screens (claim 2), debris barrier (claim 3), navigational aid (claim 4), water craft (claim 5), water screening device (claim 6), net (claim 7), pier or piling (claim 8). Claim 10 teaches that the method can be used to prevent fouling by zebra mussels.

The instant claims are met by the reference as the reference teaches a method that encompasses that which is instantly claimed.

10. Claims 1 and 3 are rejected under 35 U.S.C. 102(b) as being anticipated by Taylor (US Patent No. 5,695,552).

The reference teaches, in the abstract, the examples and the claims, a method of reducing fouling of a structure comprising providing a carrier suitable for underwater application and an effective antifouling amount of at least one organism repellent wherein the carrier is compatible with the repellent and placing said antifouling composition in adherent contact with the structure. The carrier may be a film, reservoir, matrix or paint or a polymer (claim 15).

The instant claims are met by the reference as the reference teaches a method that encompasses that which is instantly claimed.

11. Claims 1 and 3 are rejected under 35 U.S.C. 102(b) as being anticipated by Fears (US Patent No. 5,358,749).

The reference teaches, in the claims, a method of protecting exposed surface areas of underwater structures against both detrimental adherence and buildup of live organisms by providing a composition and applying the composition to the exposed surfaces. The composition is in the form of a coherent mass which is then used to coat or line the exposed surfaces.

The instant claims are met by the reference as the reference teaches a method that encompasses that which is instantly claimed.

12. Claims 1 and 3-4 are rejected under 35 U.S.C. 102(b) as being anticipated by Ghosh et al (US Patent No. 6,221,374).

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The reference teaches, in the claims, a method of controlling or inhibiting the growth of microorganisms such as fungi, bacteria, marine fouling organisms etc. by introducing a composition to a locus to be protected (see claims 8-12). The locus includes marine structures such as boats, ships, docks, pilings etc. (claim 10).

The instant claims are met by the reference as the reference teaches a method that encompasses that which is instantly claimed.

13. Claims 1 and 3-4 are rejected under 35 U.S.C. 102(b) as being anticipated by Japanese Patent Specification No. 5-65433.

The reference teaches, in the abstract and the examples (see especially paragraph [0043] and [0044] of the machine translation), an antifouling composition for preventing adhesion of aquatic organisms to ships bottoms etc. A complete and proper translation of this document has been ordered by the examiner.

The instant claims are met by the reference as the reference teaches a method which encompasses that which is instantly claimed.

Claim Rejections - 35 USC § 103

14. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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15. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Taylor (US Patent No. 5,989,323).

The reference was discussed previously. Further column 15, line 33+ teaches the types of structures that the composition may be used to treat which include boat hulls, fish netting etc.

The instant claim is obvious over the reference. While the reference does not specifically provide an example wherein the same surfaces are coated with the composition it does suggest various surfaces that can be treated with the composition which include those recited in instant claim 4. Accordingly it would have been obvious to treat boat hulls, buoys, etc. with the composition and thus arrive at the instant method absent evidence showing otherwise.

16. Claims 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Taylor (US Patent No. 5,695,552).

The reference was discussed previously. Further column 9, lines 20+, teaches the types of structures that the composition may be used to treat which include boat hulls, fish netting etc. Column 1, lines 49+, recite that blue mussels and zebra mussels present a problem as they foul intake or outflow pipes in power plant and column 3, lines 36-40, recite that the composition of the reference is useful against macroorganisms such as mollusks and crustaceans.

The instant claims are obvious over the reference. While the reference does not specifically provide an example wherein the same surfaces are coated with the

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composition it does suggest various surfaces that can be treated with the composition which include those recited in instant claim 4. Accordingly it would have been obvious to treat boat hulls, buoys, etc. with the composition and thus arrive at the instant method of claim 4 absent evidence showing otherwise. While the use of the composition against zebra mussels is not specifically taught it is suggested that the composition is useful against mollusks and crustaceans and provides examples showing that it is effective against blue mussels. Accordingly it is the position of the examiner that one of ordinary skill in the art would have found it obvious that the method could be used to repel other mollusks such as zebra mussels especially since the composition is effective against mollusks and crustaceans such as blue mussels and because the reference recognizes that zebra mussels also prevent fouling problems. Based on the above reasoning the instant claims are obvious over the reference absent evidence to the contrary.

17. Claims 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fears (US Patent No. 5,358,749).

The reference was discussed previously. Further the reference recites in the background that zebra mussels present a problem as they foul fluid transport systems such as water intake pipes (see column 1, lines 30+ - column 3, lines 30).

The instant claims are obvious over the reference. While the reference does not specifically provide an example wherein the same surfaces are coated with the composition it does teach that the composition is used to treat submerged surfaces to

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prevent fouling and accordingly it would have been obvious to treat boat hulls, buoys, etc. (i.e. any underwater surface in danger of fouling) with the composition and thus arrive at the instant method of claim 4 absent evidence showing otherwise. While the use of the composition against zebra mussels is not specifically taught it is suggested that zebra mussels are of particular concern as they damage surfaces by fouling and accordingly it is the position of the examiner that one of ordinary skill in the art would have found it obvious that the method could be used to repel zebra absent evidence to the contrary. Further based on the extensive discussion of the zebra mussel problem it is the position of the examiner that this suggests that the composition is useful for preventing fouling by zebra mussels absent evidence showing otherwise. Based on the above reasoning the instant claims are obvious over the reference absent evidence to the contrary.

18. Claims 5 and 7-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ghosh et al (US Patent No. 6,221,374).

The reference was discussed previously. While the reference does not recite that the marine fouling organism is barnacles or zebra mussels, it is the position of the examiner that since the reference broadly teaches "marine fouling organisms" that one of ordinary skill in the art would have found it obvious to use the composition for any type of fouling marine organism without producing any unexpected results absent evidence showing otherwise thus rendering obvious instant claim 5. As for claims 7-9 while the reference does not recite a composition useful for reducing fouling of surfaces

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wherein the composition comprises a pyridyl alkaloid component it should be noted that the preamble limitation is of no consequence when the composition is the same.

Patentability does not depend upon intended use. Therefore any composition comprising a pyridyl alkaloid compound and a surface treatment would be seen to render obvious the instant claims. Applicant's attention is drawn to column 4, lines 22+ which recite various insecticides that may be used as the biologically active compound in the compositions. Accordingly the manufacture of a composition comprising nicotine as the biologically active compound is suggested by the reference thus rendering obvious instant claims 7 and 9. As for claim 8, while the reference does not recite the use of R-nicotine or S-nicotine it is the position of the examiner that the references broad teaching of nicotine would render obvious any type of nicotine absent evidence to the contrary. Furthermore it is the position of the examiner that nicotine in solution would inherently be found in a racemic mixture thus rendering obvious the use of R-nicotine and/or S-nicotine. Therefore based on the above reasoning the instant claims are rendered obvious by the reference.

19. Claims 2, 5 and 7-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japanese Patent Specification No. 5-65433.

The reference was discussed previously above. While the reference does not specifically provide an example wherein the composition is used to prevent fouling by barnacle larvae or zebra mussels, it does teach in paragraphs [0002] and [0040]-[0041] of the translation that the method and composition is useful to prevent fouling by

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mussels. Accordingly it is the position of the examiner that the method can be used to prevent fouling by any type of mussel such as the zebra mussel without producing any unexpected results absent evidence showing otherwise since the reference teaches that it is useful for preventing fouling by various organisms such as mussels and other shellfish thus rendering obvious claim 5. As for claims 7-9 while the reference does not specifically teach an example wherein a pyridyl alkaloid component such as nicotine is utilized it does suggest in paragraph [0013] of the translation and the abstract that the composition may further contain a repellent such as a nicotine compound. Accordingly the manufacture of a composition comprising nicotine as the biologically active compound is suggested by the reference thus rendering obvious instant claims 7 and 9. With respect to claims 2 and 8, while the reference does not recite the use of R-nicotine or S-nicotine it is the position of the examiner that the references broad teaching of nicotine would render obvious any type of nicotine absent evidence to the contrary. Furthermore it is the position of the examiner that nicotine in solution would inherently be found in a racemic mixture thus rendering obvious the use of R-nicotine and/or S-nicotine. Therefore based on the above reasoning the instant claims are rendered obvious by the reference.

20. Claims 1-5 and 7-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japanese Patent Specification No. 51-63835.

The reference teaches, in the abstract, an anti-fouling coating composition for underwater structures such as piers or ships having parts in the water containing

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nicotine which is used to prevent deposition of shellfish such as barnacles and which can be applied as a paint. It should be noted that a full translation of this document has been ordered by the examiner as a machine translation is not available to the examiner.

The instant claims are obvious over the reference. The composition recited in the abstract renders obvious the composition recited in instant claims 7 and 9 as the nicotine compound is an example of a pyridyl alkaloid component thus suggesting instant claim 7 and the formation of a composition into a paint suggests instant claim 9. While the reference does not recite the instant method of claims 1 and 3-5 it does teach the formation of a composition which is used to prevent fouling of underwater structures so it would have been obvious to one of ordinary skill in the art to utilize the composition in the method of claims 1 and 3-5 to prevent fouling by barnacles etc. since an anti-fouling composition for underwater structures would suggest or imply the use of the composition in a method of preventing fouling. As for claims 2 and 8, while the reference does not recite the use of R-nicotine or S-nicotine it is the position of the examiner that the references broad teaching of nicotine would render obvious any type of nicotine absent evidence to the contrary. Furthermore it is the position of the examiner that nicotine in solution would inherently be found in a racemic mixture thus rendering obvious the use of R-nicotine and/or S-nicotine. Therefore based on the above reasoning the instant claims are rendered obvious by the reference.

21. Claims 1-5 and 7-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japanese Patent Specification No. 04-337369.

The reference teaches, in the abstract, an anti-fouling coating composition for underwater structures such as ship bottoms, port facilities etc. which contains a repellent coated with polyvinyl alcohol or a mixture of polyvinyl alcohol and a repellent. The coating material is prepared by dispersing the repellent and polyvinyl alcohol in a base coating. The repellent includes tannin, nicotine etc. It should be noted that a full translation of this document has been ordered by the examiner as a machine translation is not available to the examiner.

The instant claims are obvious over the reference. While the reference does not recite the instant method of claims 1 and 3-5 it does teach the formation of a composition which is used to prevent fouling of underwater structures so it would have been obvious to one of ordinary skill in the art to utilize the composition in the method of claims 1 and 3-5 to prevent fouling by barnacles etc. since an anti-fouling composition for underwater structures would suggest or imply the use of the composition in a method of preventing fouling. As for claims 7-9 while the reference does not specifically teach an example wherein a pyridyl alkaloid component such as nicotine is utilized it does suggest that nicotine as an example of a repellent that is useable in the invention. Accordingly the manufacture of a composition comprising nicotine as the repellent is suggested by the reference thus rendering obvious instant claims 7 and 9. With respect to claims 2 and 8, while the reference does not recite the use of R-nicotine or S-nicotine it is the position of the examiner that the references broad teaching of nicotine would render obvious any type of nicotine absent evidence to the contrary. Furthermore it is the position of the examiner that nicotine in solution would inherently

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be found in a racemic mixture thus rendering obvious the use of R-nicotine and/or S-nicotine. Therefore based on the above reasoning the instant claims are rendered obvious by the reference.

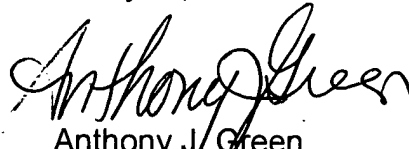
Information Disclosure Statement

22. The references cited by applicant with the exception of "R5" have been considered and are not seen to teach and/or fairly suggest the instant invention. "R5" has not been considered as the reference is incomplete as all of the pages listed have not been submitted.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anthony J. Green whose telephone number is 571-272-1367. The examiner can normally be reached on Monday-Thursday 6:30-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark L. Bell can be reached on 571-272-1362. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Anthony J. Green
Primary Examiner
Art Unit 1755

ajg
February 22, 2005